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| SERIAL NUMBER | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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08/030,309 05/07/93 SMITH

D MUR3490

EXAMINER
MOSKOWITZ, N

22M2/1102

ART UNIT PAPER NUMBER

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2202

DATE MAILED: 11/02/94

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-13 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 1-13 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

BEST AVAILABLE COPY

Art Unit: 2202

1. Applicant is required to verbally label the geometric representations present in his figures 1-3.
2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Montgomery ('908) or Bockhorst et al when taken with Grossman and Close et al or Arriens. Montgomery and Bockhorst et al disclose a method, and apparatus, for transmitting data in a borehole. In Montgomery pressure transducer 707 provides an electrical signal representative of downhole pressure. Transducer 40 then converts the electrical signals to sonic signals generated along the pipe string. The sonic signals then pass uphole past any physical obstruction in the well and are converted by uphole transducer 23 to electrical signals. However, no data is stored uphole. It is noted that

Art Unit: 2202

this reference also discloses the use of a microprocessor (704) downhole.

In Bockhorst et al borehole pressure data is logged and acoustically transmitted uphole along the drill string. See especially columns 1, 3 and 4.

Grossman teaches the crux of Applicants' invention, i.e.:

- 1) downhole pressure data storage (pages 2 and 3); and
- 2) pick-up tool coupling for data retrieval (overshot device).

Close et al is representative of modern borehole logging of pressure, and downhole data storage. Arriens et al shows recording the data uphole prior to transmission to the earth's surface.

The difference between this prior art and the pending claims lies in the combination of acoustic uphole data transmission, with recording of the data at the acoustic receiver prior to pick-up tool transmission. However, as the prior art shows the uphole recordation of the received pressure data to be conventional, as is the sonic signal transmission along the pipe, the combination would not have been unobvious to one skilled in this art.

3. The references listed by Applicants upon their PTO-1449 form have been considered and found to be fairly representative of the

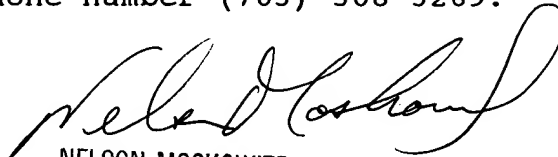
Serial Number: 08/030,309

-4-

Art Unit: 2202

state of the art. References D-F are cited to show downhole logging with recording as in the prior art.

4. Any inquiry concerning this communication should be directed to Nelson Moskowitz at telephone number (703) 308-3269.

A handwritten signature in cursive script, appearing to read "Nelson Moskowitz", is written over the typed name.

NELSON MOSKOWITZ
EXAMINER
GROUP ART UNIT 222

Moskowitz/ajh-3

10-31-94